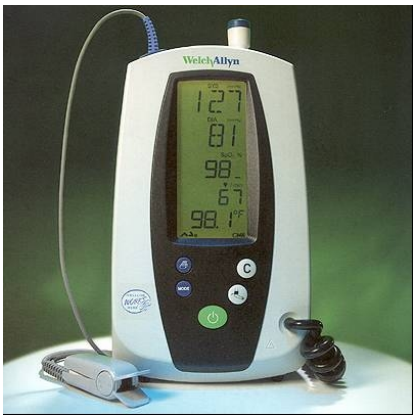
Title: Spot Vital Signs Monitor	Date: November 17, 2010
By: Welch Allyn, Skaneateles Falls, NY	**DISCLAIMER: THIS PROCEDURE PROVIDED "AS IS" AND WITH POSSIBLE FAULTS. USER MUST VERIFY BEFORE USE. NEITHER PROVIDER NOR WEBSITE ASSUMES ANY RESPONSIBILITY FOR ITS USE.**
File = spot-vital-signs.doc	



1. General
   Applies to Spot Vital Signs monitors, ex: models 4200B, 420TB, 420M0B, 420N0B, 42MTB, 420NTB

2. Reference Documents
   Service Manual available at http://www.welchallyn.com – Technical Library – Patient Monitors & Systems – Vital Signs Devices -- Spot Vital Signs® LXi
   See Appendix for control/button assignments.

3. Tools
   Digital Manometer, Blood Pressure Simulator

4. Basic PM Procedure

   4.1. Physical Inspection
   If necessary, wipe down with a weak disinfectant or a 5-10% bleach solution.
   Check case, power cord, accessory cords, and hoses for integrity.
   Battery is adequately charged when charging icon no longer flashes.

   4.2. Time and Date Check/Change
   Initiate the Spot Vital Signs internal configuration settings menu by powering on the unit while pressing and holding the Blood Pressure Start/Stop button. The first message displayed is the revision level of the internal software. Press the Mode button to advance to the Date Set screen.

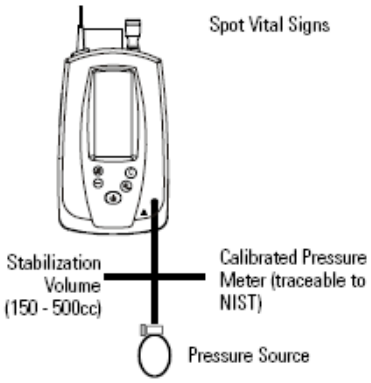
   4.3. SpO2 Functional Check.
   Use SpO2 simulator to check the SpO2 functionality (including heart rate). Otherwise, the average healthy person will normally measure in the high 90's as a reference. Also, note that the heart rate display section indicates the correct rate from the subject.

   4.4. Temperature Calibration Check
   Use the 9600 Plus Calibration Tester to check the SureTemp thermometer accuracy. If this calibrator is not available, one may use a glass of lukewarm water with a known temperature as a reference.

   4.5. NIBP Check
   Use a Simulator if available to check performance. If not available, verify the pressure accuracy of the unit as detailed in step "Pressure Accuracy" below. Then perform a routine automatic NIBP check on a human subject to verify pumping ability and to check for leaks. Small leaks (usually in hose and cuff) can confuse program diagnostics.

4.6. Pressure Accuracy

Enter the internal configuration mode by pressing and holding the Power and Blood Pressure Start/Stop buttons simultaneously. Then press the Blood Pressure Start/Stop button to close the device's internal valve to permit application of an external pressure.



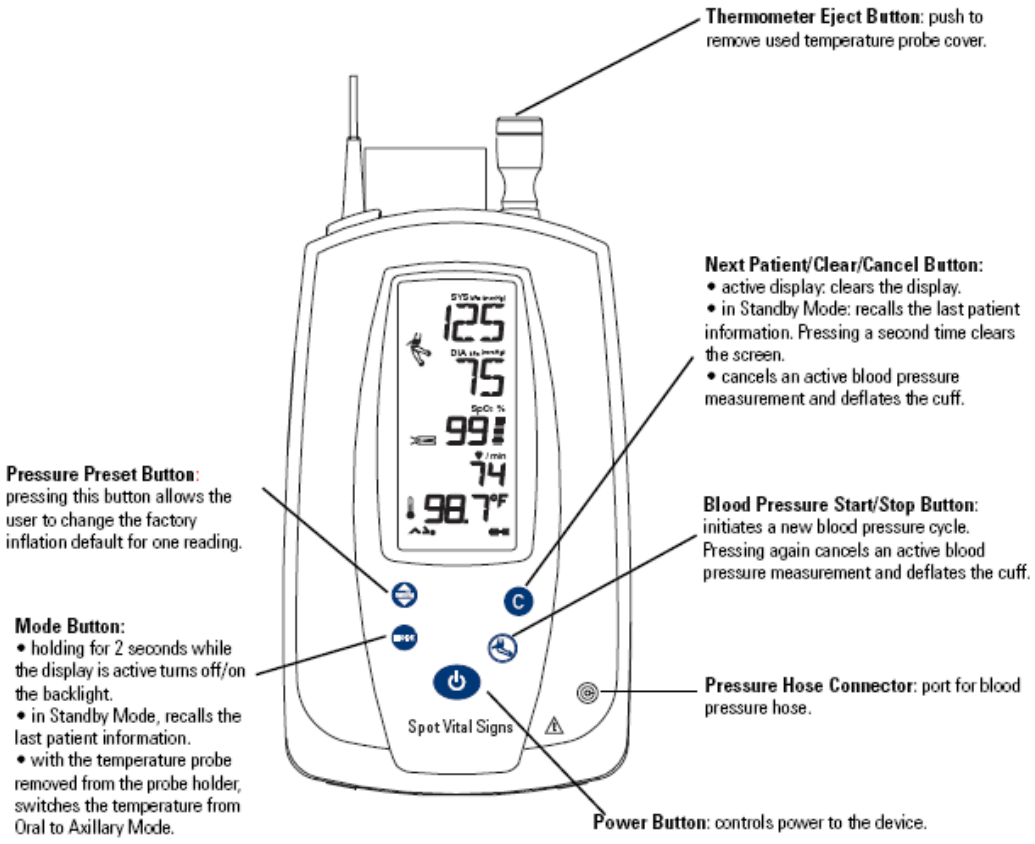
Connect the Spot Vital Signs as shown to a calibrated pressure meter. Use a fixed volume or a C blood pressure cuff wrapped around a cylinder for the stabilization volume.

Pressurize the Spot Vital Signs to slightly above 250 mmHg. Slowly bleed the pressure to approximately 250 mmHg, clamp, and record the pressure reading and the measurement standard. Repeat this step for 150 and 50 mmHg (approximate).

If the differences between Spot Vital Signs and the pressure measurement standard are within ±3 mmHg at all specified pressures, then the device is within calibration. If the Spot Vital Signs needs re-calibration, the procedures are included in the Spot Vital Signs Service Manual. (The above accuracy information condensed from this manual.)

APPENDIX

Front Panel Functions


Thermometer Eject Button: push to remove used temperature probe cover.
Next Patient/Clear/Cancel Button:
• active display: clears the display.
• in Standby Mode: recalls the last patient information. Pressing a second time clears the screen.
• cancels an active blood pressure measurement and deflates the cuff.
Pressure Preset Button: pressing this button allows the user to change the factory inflation default for one reading.
Blood Pressure Start/Stop Button: initiates a new blood pressure cycle. Pressing again cancels an active blood pressure measurement and deflates the cuff.
Mode Button:
• holding for 2 seconds while the display is active turns off/on the backlight.
• in Standby Mode, recalls the last patient information.
• with the temperature probe removed from the probe holder, switches the temperature from Oral to Axillary Mode.
Pressure Hose Connector: port for blood pressure hose.
Spot Vital Signs
Power Button: controls power to the device.